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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,424	02/22/2002	Takashi Hagino	YK1-0084	8277

23413 7590 07/11/2003

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EXAMINER

COLEMAN, WILLIAM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/080,424

Applicant(s)

HAGINO ET AL.

Examiner

W. David Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al., U.S. Patent 5,313,076.
4. Yamazaki discloses a semiconductor as claimed. See **FIGS. 1-6(C)**.
5. Pertaining to claim 1, Yamazaki teaches a method for manufacturing a polycrystalline semiconductor layer **606/607**, comprising the step of laser annealing an amorphous semiconductor layer in a low degree vacuum atmosphere (please note that the term “low degree” does not provide any patentable weight to the claimed invention), (also see column 11, lines 1-68).
6. Pertaining to claim 2, Yamazaki teaches a method defined in claim 1, wherein said annealing is performed under a pressure between about  $1.3 \times 10^3$  Pa and about 1.3 Pa (please note that 1.3 pascal is equivalent to  $9.75 \times 10^{-3}$  Torr, Yamazaki teaches an operating pressure range of  $5.0 \times 10^{-2}$  Torr to about  $1.0 \times 10^{-4}$  Torr).

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7. Pertaining to claim 3, Yamazaki teaches a method defined in claim 1, wherein said annealing is performed in an annealing atmosphere containing an inert gas (column 13, lines 38-68).

8. Pertaining to claim 4, Yamazaki teaches a method defined in claim 3, wherein said inert gas includes a gas selected from the group consisting of nitrogen, argon and neon (column 13, line 65, please note that hydrogen is well known not to be considered an inert gas).

9. Pertaining to claim 5, Yamazaki teaches a method defined in claim 1, wherein said annealing is performed in an annealing atmosphere containing an inert gas.

10. Pertaining to claim 6, Yamazaki teaches a method defined in claim 5, wherein said inert gas includes a gas selected from the group consisting of nitrogen, hydrogen, argon and neon.

11. Pertaining to claim 7, Yamazaki teaches a method of manufacturing a thin-film transistor, comprising the steps of:

forming an amorphous silicon layer on a substrate;  
disposing said substrate inside an annealing chamber;  
creating a low degree vacuum atmosphere within said annealing chamber; and  
irradiating focused laser light onto the amorphous silicon layer overlying said substrate through a chamber window built in said annealing chamber to anneal and polycrystallize said amorphous silicon, whereby a polycrystalline silicon layer is formed as an active layer of said thin-film transistor.

12. Pertaining to claim 8, Yamazaki teaches a method defined in claim 7, wherein said annealing is performed under a pressure between about  $1.3 \times 10^{-3}$  Pa and about 1.3 Pa.

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13. Pertaining to claim 9, Yamazaki teaches a method defined in claim 7, wherein said annealing is performed in an annealing atmosphere containing an inert gas.

14. Pertaining to claim 10, Yamazaki teaches a method defined in claim 9, wherein said inert gas includes a gas selected from the group consisting of nitrogen, argon and neon (please note that hydrogen is not considered an inert gas, however, Yamazaki teaches Applicants claimed invention).

15. Pertaining to claim 11, Yamazaki teaches a annealing apparatus, wherein focused laser light is irradiated through a chamber window onto an object to be processed placed inside a annealing chamber, comprising:

an introducer for introducing an inert gas into said annealing chamber during annealing;

a pump for reducing the pressure in said annealing chamber; and

a pressure controller for controlling the pressure in said annealing chamber to maintain a pressure between  $1.3 \times 10^3$  Pa to about 1.3 Pa.

### ***Objections***

16. Applicants claims that hydrogen gas is considered an inert gas, the Examiner is not convinced and Applicant should either remove the “term” inert from the claims or remove the term “hydrogen”.

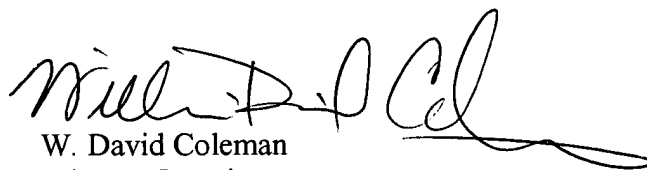
### ***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004. The examiner can normally be reached on 9:00 AM-5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to read 'W. David Coleman', with a long horizontal flourish extending to the right.

W. David Coleman  
Primary Examiner  
Art Unit 2823

WDC  
June 30, 2003